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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,356	04/20/2004	Richard Carl Phelps	0120-027	2594

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EXAMINER	
CLEARY, THOMAS J	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/827,356	PHELPS ET AL.	
	Examiner	Art Unit	
	Thomas J. Cleary	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 4,419,724 to Branigin et al. ("Branigin") and US Patent Number 4,535,404 to Shenk ("Shenk").

3. In reference to Claim 1, Branigin discloses an apparatus for use in a computer system comprising: a bus architecture (See Figure 1); a plurality of modules connected to the bus architecture (See Figure 1), each module being assigned an ID (See Column 4 Lines 1-4); each module comprising: reception means for receiving and storing availability data indicative of the availability of modules (See Column 5 Lines 17-22); transaction request means for producing a transaction request including target address data indicating a destination ID for the transaction (See Column 8 Lines 23-29); decoding means for decoding the destination ID to produce an expected destination ID relating to a target module (See Column 8 Lines 27-29); comparison means for

analysing the stored availability data corresponding to the target module identified by the expected destination ID (See Column 8 Lines 29-40); and transaction means, responsive to the comparison means, for terminating the transaction request if the analysed availability data indicates that the target module is unavailable (See Column 8 Lines 29-40). Branigin teaches the use of device IDs as opposed to memory-mapped devices. Memory mapping devices is a well-known alternative to using device IDs, as evidenced by Shenk. Branigin further does not teach the target module having an address range in the memory map which includes the target address data. Shenk teaches the use of memory-mapped devices in which a target module will have an address range in the memory map which includes a target address data (See Column 1 Lines 13-28). A memory-mapped device will also have decoding means for decoding the target address data relating to a target module, as evidenced by Shenk (See Column 5 Lines 21-68)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the system of Branigin using the memory mapped devices of Shank instead of device ID's, resulting in the invention of Claim 1, because memory mapping devices is well known, allows communications with devices to be performed with normal memory reference instructions, and offers increased flexibility (See Column 1 Lines 25-28 and 51-52 of Shenk).

4. In reference to Claim 2, Branigin and Shenk teach the limitations as applied to Claim 1 above. Branigin further teaches a control means for controlling access to the

bus architecture by the modules (See Figure 1 Number 100) and wherein the transaction means is further operable to forward, to the control means, a transaction request, if the analysed availability data indicates that the target module is available (See Column 8 Lines 33-40).

5. In reference to Claim 3, Branigin and Shenk teach the limitations as applied to Claim 1 above. Branigin further discloses a computer system comprising the apparatus (See Figure 1).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blum as applied to Claim 1 above, and further in view of US Patent Number 5,761,516 to Rostoker et al.

7. In reference to Claim 4, Branigin and Shenk teach the limitations as applied to Claim 1 above. Branigin and Shenk do not teach an integrated circuit comprising the apparatus. Rostoker teaches an integrated circuit having a plurality of devices, which can include processors, memory controllers, and I/O controllers (See Figure 2 and Column 2 Lines 10-16).

It would have been obvious to construct the device of Branigin and Shenk, on the integrated circuit of Rostoker, resulting in the invention of Claim 4, in order to provide a more cost-effective use of silicon real estate and provide much better price performance

than conventional multichip designs (See Column 1 Line 65 – Column 2 Line 9 of Rostoker).

Response to Arguments

8. Applicant's arguments filed 11 July 2006 have been fully considered but they are not persuasive.

9. In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

10. Applicant has argued that Shenk does not disclose decoding means for decoding the target address data to produce module identity data relating to a target module (See Page 4 Paragraphs 1 and 2). In response, the Examiner notes that Branigin discloses decoding means for decoding the destination ID to produce an expected destination ID relating to a target module (See Column 8 Lines 27-29). Further, Shenk discloses the use of memory-mapped devices in which a target module will have an address range in the memory map which includes a target address data (See Column 1 Lines 13-28). A memory-mapped device will also have decoding means for decoding the target address

data relating to a target module, as evidenced by Shenk (See Column 5 Lines 21-68). This decoding is required by any memory-mapped device, in order to allow the device to determine that it is the addressed device. Thus, both Branigin and Shenk disclose decoding target ID data to produce data indicating a target location.

11. Applicant has argued that Shenk does not disclose the target module having an address range in the memory map which address range includes the target address data (See Page 4 Paragraphs 1 and 2). In response, the Examiner notes that even if a module is only assigned a single address, that single address is still an address range (a range of 1). The features upon which Applicant relies (i.e., multiple addresses in an address range) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

12. In response to Applicant's argument that Shenk discloses attaching a peripheral device to a microprocessor's memory space, as opposed to its I/O space, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Shenk was relied upon merely to teach that memory mapping devices is a well-known

alternative to using device IDs, and that it would be obvious to make such a replacement.

13. In response to Applicant's argument based upon the age of the references (See Page 4 Paragraph 3), contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

14. Applicant has argued that Applicant's decoding of individual memory and peripheral targets is placed on the processor side of the bus and not in the targets themselves (See Page 5 Paragraph 1). In response, the Examiner notes that the features upon which Applicant relies (i.e., decoding of individual memory and peripheral targets is placed on the processor side of the bus and not in the targets themselves) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant's claims clearly state "each module comprising:...decoding means for decoding the target address data...".

15. In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the system of Branigin using the memory mapped devices of Shank instead of device ID's, resulting in the claimed invention, because memory mapping devices is well known, allows communications with devices to be performed with normal memory reference instructions, and offers increased flexibility (See Column 1 Lines 25-28 and 51-52 of Shenk).

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thomas J. Cleary whose telephone number is 571-272-3624. The Examiner can normally be reached on Monday-Thursday (7-3), Alt. Fridays (7-2).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJC

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